Watershed Protection Section Projects
1998 - 2001

Watershed Protection Section Projects 1998

98-B Federal Consistency: Southern Forests
$311,583 (Federal) $215,177 (Match) $526,760 (Total)
OBJECTIVE: To ensure that water quality concerns are analyzed during the Integrated Resource Management process, to conduct field inspections to ensure the implementation and effectiveness of best management practices, and to provide for the transfer of technology while improving interagency cooperation.

98-C Naschitti NPS Range Project
$290,911 (Federal) $ 96,451 (Match) $387,362 (Total)
OBJECTIVE (S): 1. Establish 47 miles of fence around 5 Range Management Units (RMUs) of 30,353 acres to control livestock trespass problems and facilitate proper management of the rangeland. 2. Develop range management conservation plans with the five families involved in this project to educate them about proper range management techniques. 3. Increase ground cover from its current 5 - 50% or more through implementation of the range management conservation plans. 4. Establish an Information & Education Program through outreach efforts to schools and Chapters by conducting field tours and begin the filming of a documentary chronicling the range improvement over time.

98-D Rio Ruidoso Watershed Restoration Project
$128,560 (Federal) $ 25,170 (Match) $153,730 (Total)
OBJECTIVE(s): Restore the Rio Ruidoso watershed to a properly functioning condition and to generate widespread public awareness, support, and participation in the project. This will be accomplished by improving water quality and by restoring the watershed's hydrologic function. Water quality will be improved by affecting positive changes to sediment transport, nutrient loading, ground/surface water contaminants, and streambank degradation. The watershed's hydrologic function will be restored through streambank stabilization and revegetation.

98-E Bonito Lake Critical Area Treatment
$ 47,500 (Federal) $ 27,750 (Match) $ 75,250 (Total)
OBJECTIVE: Reduce soil erosion & vegetation degradation & subsequent water quality problems along 700 feet of shore line of Bonito Lake by 1) installing 10 major bank stabilization structures in severely eroded drainage and 2) by installing 4 sets of metal stairs & 700 feet of trails to provide safe egress & ingress to the lake.

98-F Southern New Mexico Agri-Chemical Handling Facility
$37,084 (Federal) $ 29,861 (Match) $ 66,945 (Total)
Objective: This project has the potential to solve one of our WQ concerns through the dissemination of information about Agrichemical Handling Facilities (AHFs) to agricultural chemical users. This Demonstration project will show off the amenities of an AHF and how it will minimize the potential for a chemical spill or accident.

98-G Jarosa/Rio Puerco Riparian-Rangeland Improvement Project
$ 181,740 (Federal) $ 75,789 (Match) $ 257,529 (Total)
OBJECTIVE: Improve water quality in the Rio Puerco de Chama, Jarosa Creek, and the Rito Redondo. Restore naturally stable hydrologic functions in these streams by improving riparian vegetative cover.

Reduce the amount of sediment entering the Rio Puerco de Chama, Jarosa Creek, and the Rito Redondo by improving livestock management on the Jarosa Grazing Allotment. Improve livestock management by developing a deferred rotation system. Manage fenced riparian areas by grazing in a more intensive, shorter duration manner.

98-H Upper Pecos Watershed Restoration and Stewardship Project
$ 143,609 (Federal) $ 66,964 (Match) $ 210,572 (Total)
OBJECTIVE(S): To reduce erosion and siltation in the Upper Pecos River and its tributaries through the use of Best Management Practices (BMPs). To improve wetland, riparian and fisheries habitat through the exclusion of cattle and planting of riparian vegetation. To provide outreach on watershed management through demonstration projects, publications, presentations, educational workshops, field day and tour.

98-I Rio Puerco Riparian Demonstration Project
(Forest Guardians in cooperation with Southwest Environmental Center)
$ 20,000 (Federal) $ 17,000 (Match) $ 37,000 (Total)
OBJECTIVE(S): Reduction of sediment as a result of improved riparian habitat through livestock exclusion and planting native riparian plants. Public education through school contact and news media stories addressing the importance of healthy functioning riparian areas

98-J Establishing Empirical Tools for Assessment of Natural Channels in New Mexico, Northern Arizona University
$60,000
OBJECTIVE(S): The objectives of this project are to develop empirical tools to aid managers, landowners and technicians in the field assessment of stream channel function and bank stability. There are two distinct components. First, defining regional relationships for bankfull discharge for the State of New Mexico. The second component is the establishment of an empirical, predictive model for stream bank erosion.

Watershed Protection Section Projects 1999

99-A West Fork Natural Revetment and Bioengineering Project
$ 94,700 (Federal) $104,400 (Match) $199,100 (Total)
OBJECTIVE(S): This Project is intended to address non-point source pollution derived from channel instability, accelerated erosion of cutbanks, and reduced filtering capacity due to lack of riparian/wetland vegetation. This project will also address loss of habitat, lack of habitat diversity, and reduce the threat of flooding and erosion along State Highway 15, which is adjacent to the river.

99-B Picacho Bosque Wetland Restoration
$ 7,500 (Federal) $14,100 (Match) $21,600 (Total)
OBJECTIVE(S): The Picacho Bosque Wetland Project proposes to reduce sediment load, salinity, as well as several other NPS pollutants entering the Rio Grande. By restoring freshwater wetlands along the Picacho Drain, which carries agriculture return flow to the Rio Grande, the high levels of sediment and TDS in the agricultural runoff and drain water could be reduced by 40% and 20% respectively.

99-C Lower Rio Grande Precision Farming
$100,000 (Federal) $166,500 (Match) $266,500 (Total)
OBJECTIVE(S): The project will integrate a geographic information system (GIS), the global positioning system (GPS), farm management computer software, electronic irrigation water measurement devices, in-field soil moisture measurement devices with radio telemetry, weekly color infrared aerial photography, both historic and current Thematic Mapper (TM) satellite images, and the Natural Resources Conservation Service's Holistic Irrigation Technology program

99-D Gallinas Watershed Stewardship Enhancement Project
$90,000 (Federal) $62,526 (Match) $152,526 (Total)
OBJECTIVE(S): To improve water quality by reducing erosion and siltation through the use of Best Management Practices (BMPs). To improve wetland, riparian and fisheries habitat through the exclusion of cattle and planting of riparian vegetation. To provide educational outreach on watershed management through demonstration projects, publications, presentations, educational workshops and tours. To work with local governments, upgrading regulations.

99-E Rio Vallecitos Watershed Project
$ 50,000 (Federal) $ 0 (Match) $ 50,000 (Total)
OBJECTIVE(S): Prevention of further water quality degradation of the Rio Vallecitos by restoring its natural hydrologic functions. Streambank stabilization and re-establishment of riparian vegetation. Compliance with water quality standards, which include reductions in peak water temperatures, turbidity levels, total suspended sediments, and reduction in heavy metal concentrations. Interagency cooperation.

99-F Taylor & Beaver Creek Riparian Restoration Project
$ 36,000 (Federal) $ 0 (Match) $ 36,000 (Total)
OBJECTIVE(S): This project is designed to exclude livestock along 8.5 miles of riparian area thus allowing this area to recover from past overuse.

99-G Tularosa Creek Watershed Restoration Project
$ 150,000 (Federal) $ 100,000 (Match) $ 250,000 (Total)
OBJECTIVE(S): Reduce erosion and sediment loads entering Tularosa Creek (upland watershed), remove noxious vegetation in riparian areas and promote recovery of native riparian species, improve surface water quality and quantity, which will be monitored during the course of the grant and Establish an Information & Education Program through outreach efforts to schools, youth organizations, landowners, and citizens.

99-H Upper San Francisco Riparian Enhancement
$ 45,000 (Federal) $ 33,000 (Match) $ 78,000 (Total)
OBJECTIVE(S): This project will primarily address the nonpoint source water quality problems of temperature and nutrients. Approximately eight miles of fence will be constructed to create five discrete riparian pastures (Strawberry, Stone Creek, upper San Francisco, Trail, and Frisco).

99-I Rio Puerco Channel Reintroduction and Enhancement Project
$ 52,700 (Federal) $7,500 (Match) $ 60,200 (Total)
OBJECTIVE(S): To provide technical and remediation assistance design and implement BMPs for stabilizing approximately 10,000 feet of bed and banks of the reintroduced reach of the Rio Puerco, develop and implement monitoring procedures to characterize the river's flow, and fence off the stream

99-J School Canyon Riparian Restoration
$ 35.000 (Federal) $ 0 (Match) $ 35.000 (Total)
OBJECTIVE(S): Five surface earthen structures (spreaders), placed perpendicular to the slope of the meadow and the gully dissecting the meadow, will be constructed in School Canyon. The design of the structures will address retention of sediment, gully plugging, and dispersion of surface flows.

99-L Nonpoint Source Pollution Prevention Project on the Santa Fe River
$ 143,840 (Federal) $ 106,628 (Match) $ 250,468(Total)
OBJECTIVE(S): This project is proposed as a demonstration project to improve channel stability and reduce bank erosion on the Santa Fe River. The project will lead to improvements in water quality conditions in the Santa Fe River in stream segment 2-110 as designated by the NMWQCC.

99-M Gallinas Watershed Riparian Enhancement Project
$ 79,800 (Federal) $ 53,200 (Match) $ 133,000 (Total)
OBJECTIVE (S): The objective is to implement measures identified in the 1994 Gallinas River Watershed Plan as necessary to maintain and improve the waters quality and quantity for the municipality of Las Vegas.

99-N Caja del Rio/Santa Fe River Watershed Improvement project
$ 190,894 (Federal) $ 202,500 (Match) $ 390,894 (Total)
OBJECTIVE(S): This project is intended to address non-point source pollution derived from poor livestock distribution due to lack of livestock drinking water; poor riparian vegetation on the La Bajada Mine reclamation area on the Santa Fe River; soil erosion in the upland portion of the allotment; and the treatment of sagebrush into grasslands. This project will improve both the number and location of livestock watering sources to better utilize the forage over the entire allotment.

99-Q Erosion Control Proeject Angel Fire Ski Area -Ange Fire, NM
$81,385 (federal) $55,665 (Match) $137,050 (total)
OBJECTIVE(S): To reduce erosion, turbidity, and sedimentation of Agua Fria and Cieneguilla Creeks by increasing organic content of soil and increasing vegetative cover utilizing grazing as the tool on selected ski runs at Angel Fire Ski Area which are a source of sediment.

99-R Rio Cebolla
$108,300 (federal) $72,200 (Match) $180,500 (total)
OBJECTIVE(S): To construct and reconstruct barbed wire fencing to facilitate control of cattle access to riparian areas and increase riparian vegetation abundance and density. To construct upland water developments for cattle and wildlife to reduce riparian attraction and encourage better upland distribution. To construct barriers (rail fence, natural materials) to restrict motor vehicles to designated roads and parking area. To provide designated parking areas at various contact points to discourage creation of undesignated roads and riparian damage. To close, reclaim and camouflage undesignated roads t reduce eriosion and discourage vehicle traffic. Sign areas accordingly to inform and education public about sensitive riparian zones and discourage vehicle travel. To provide proper drainage on FR 376 to disperse

water on a wet meadow. To replace a FR 376 culvert to reduce erosion and downcutting. To eradicate noxious weeds at a popular parking site t eliminate potential for spread along the entire riparian zone. To eliminate dump site to eliminate potential leaching and runoff into stream and discourage future dumping. To promote partnerships, public involvement, and education

99-S Esperanza Grazing Association
$122,000 (federal) *$72,200 (Match)* *$194,200 (total)*
OBJECTIVE(S): . To improve water quality in the Rio Chama watershed and its tributaries. The project will use a livestock and wildlife water distribution system, riparian protection and enhancement, brush control to enhance grasses ability to hold soil, road improvements to reduce erosion, and soil erosion control structures. A significant educational effort will be completed involving the regions ranching communities and youth.

99-T Spur Ranch Centerfire Creek
$105,000 (federal) *$70,250 (Match)* *$175,250 (Total)*
OBJECTIVE(S): To improve water quality by reducing sediment load downstream into the San Francisco River. To improve conditions of flow to enhance perennial flow in Centerfire Creek. To restore the degraded meadow to approximately the original level. To retain soil on the upper watershed. To raise the water table. To increase forage and herbaceous production. To improve watershed function.

Watershed Protection Section Projects 2000

2000-A Garcia Canyon Watershed Project - cancelled due to Cerro Grande Fire

2000-B Soil Stabilization Project - Angel Fire, NM
$69,725 (federal), $47,425 (match) $117,150 (total)
OBJECTIVE(S): The purpose of this project is to decrease the amount of sediment being transported from the Angel Fire Resort Ski Area into streamcourses.

2000-C Valle Grande Grassbank Composite
$324,850(federal), $216,567(match), $541,417 (total)
OBJECTIVE(S): The Valle Grande GRASSBANK (TM) and participants involve grazing allotments on the Santa Fe and Carson National Forests. The project submitted is actually a composite of projects within this regional landscape. There are 6 allotments and 5 NMED watersheds in this composite proposal. The proposal is to burn 5,875 acres, thin 1785 acres, and construct 6 miles of fence. Also, one alternate project is identified - intensive watershed treatments on 280 acres, should savings occur or if one of the selected projects must be cancelled. An active program is in place for both local and west wide outreach, including the educational efforts of the Quivira Coalition. A Watershed Restoration Action Strategy (WRAS) will be completed for a large landscape area encompassing parts of two watersheds. A new state-of-the-art monitoring program is being put into place that is designed to monitor and validate treatment types over a seven-year time frame.

2000-D Upper Santa Fe Watershed Restoration
$419,248 (federal), $367,200(match), $786,448 (total)
OBJECTIVE(S): The project, proposed by the Santa Fe National Forest, is designed to protect water quality for forty percent of the water supply of the City of Santa Fe from the results of a large, intense wildfire. The primary objective of the project is to reduce fuel loading in critical areas of the watershed through carefully implemented and monitored thinning and prescribed burning. Without the project, a large, intense wildfire is expected to occur under current fuel loading conditions resulting from past management of Forest Service and City lands in the upper Santa Fe River watershed. The project will also protect portions of the Santa Fe River riparian area, and reduce erosion from the existing road in the Santa Fe River Canyon.

2000-E Implementation of NPS Pollution Control in the Santa Fe River
$144,650 (federal), $155,750 (match), $300,400 (total)
OBJECTIVE(S): To reduce nonpoint source pollution on the Santa Fe River. This project proposes to increase streamside vegetation, re-establish floodplain to include wetlands and to promote educational opportunities.

2000-F Galisteo Watershed Restoration
$119,102 (federal), $121,332(match), $240,434 (total)
OBJECTIVE(S): The rapid expansion of Santa Fe to the south and into the Galisteo watershed coupled with the interest of a growing number of landowners, schools and institutions to participate in a watershed restoration effort form the underlying impetus for this project. The project focuses specifically on the problem of streambottom deposits in the Galisteo Creek indicated in the 303-(d) list as a measurable expression of the deteriorated conditions of the watershed.

The scale of the watershed, the diversity of interests and ownerships, and the multitude of stressors that cause the "partial support" of the designated use of the stream beg for a practical approach. Theoretically, i.e. in terms of an efficient and rational methodology, treatment of upstream areas that contribute to the NPS pollution should receive priority in a watershed-wide restoration plan. However, such an approach meets with lengthy federal government procedures of analysis, planning and impact assessments. Forest Service representative have indicated that the agency does not have sufficient capacity to address these

issues on the watershed's national forest lands in the next few years. As a result, this project focuses on three areas where landowners are interested in a collaborative restoration project that will have a demonstration value for other landowners throughout the watershed. Therefore, outreach and education as well as monitoring and dissemination of "lessons learned" will be essential to bring the effects of restoration on the three selected sites to a larger audience throughout the watershed. At the same time, restoration of the sites will reduce localized NPS source pollution that leads to streambottom deposits.

2000-G Gila National Forest
$150,000 (federal), $150,000 (total)
This project is comprised of multiple projects submitted by individual ranger districts.
OBJECTIVE(S): All projects are prescribed burns, water source protection, and fencing of recreational areas.

2000-H Red River-Enhanced Local Involvement for Addressing Water Quality in the Red River Watershed
$29,700 (federal), $19,900 (match), $49,600 (total)
OBJECTIVE(S): The purpose of this project is to gain broader and more effective local participation from throughout the Red River watershed in working with the State to address significant watershed water quality issues, develop a watershed cleanup strategy, and identify and prioritize cost-effective areas and sites for cleanup. Because the Watershed Group is composed of key stakeholders, it is critical that its work be conducted concurrent with TMDL process (scheduled for completion in 2001) so that the strategy developed will provide an implementable framework for accomplishing loss reductions

2000-J Maudes Canyon SLO
$30,315 (federal), $33,332 (match), $63,647 (total)
OBJECTIVE(S): Riparian Enhancement

2000-L Rio Puerco Phase I
$78,972 (federal),
OBJECTIVE(S): The NMSH&TD is currently involved with the final phases of a large State and Federal highway widening project. They have completed widening of the southernmost segment of Highway 44 (Bernalillo to San Ysidro) and their contractors are proceeding with various construction segments that will lead to the completion of the road from San Ysidro to Bloomfield, New Mexico. The State Highway 44 will become US Highway 550 upon completion. NMED and EPA have been involved with this highway widening and stream restoration project for approximately 3 years, via association with the Rio Puerco Management Committee (RPMC), a task force and cooperative watershed organization formed under the Rio Puerco Watershed Act, an element of Public Law 104-333, established 12 November 1996, under the signature of President Clinton. In soliciting public comment for the middle highway construction segment (San Ysidro to Highway 537, which crosses the northern portion of the Rio Puerco Watershed), Highway Department staff and consultants asked if agencies could inform them of a way to keep the river from attacking the highway roadbase. They were provided with a detailed technical evaluation report and recommendation for action from a Subcommittee of the RPMC. The Subcommittee report (a copy has previously been provided to EPA, attached to the FY 95-K Workplan) reviewed the history, setting and consequences of the 1965 channelization at La Ventana. It compared the present dysfunctional channel geometry to the more desirable stream geomorphology setting in the abandoned sinuous channel, and measured the accelerated erosion impacts. The technical report provided a justification for the building of bridge crossings to allow natural stream flow to be returned to the Rio Puerco's natural meandering segment. Based on the strong technical argument presented in the RPMC report, the NMSH&TD committed to design and construction of two suitable bridge crossings and installation of hard armoring and drop structures necessary to protect the bridges and roadbed within the La Ventana segment. The Highway Department altered their budget and designs to include the bridges, armoring and drop structures, but the final phase of reintroducing the stream into the original channel was left to the RPMC and its constituent agencies and cooperators to implement.

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The Collaborative Watershed Project-Supporting TMDL Implementation in Northern New Mexico
319h Base: 199,880 Bud319Inc: 0 Total 319H: 199,880
OBJECTIVE(S): Provide facilitation and coordination services to bring stakeholders in selected watersheds together in a collabrative approach for identifying and remediating priority nonpoint sources particularly in building local investment in defining problems and implementing solutions. Local watershed groups will develop a Watershed Restoration Action Strategy (WRAS).

Watershed Protection Section Projects 2001

2001-B Tijeras Creek Urban Runoff Education and Demo Project
72,150 Inc: 0 Total 72,150
OBJECTIVE(S): The demonstration site is located along south bank of Tijeras Creek just West of its confluence with Cedro Creek, in the Village of Tijeras, New Mexico. The site is on the edge of the Albuquerque Public School campus shared by A. Montoya Elementary and Roosevelt Middle Schools. Los Vecinos Community
Center and other Bernalillo County Parks and Recreation facilities are adjacent to the north.

2001-C Cedar Breaks Upland Watershed Project
16,410 Bud319Inc: 0 Total 319H: 16,410
OBJECTIVE(S): Project addresses NPS pollution created by past land management practices Such as over-grazing, logging of old-growth forests, and fire suppression policies. This is a demonstration of Upland Watershed improvement in an attempt to reduce erosion and increase infiltration by rainfall. Utilizing mechanical thinning, prescribed burning of pinon/juniper that have encroached on historic grassland areas and addressing gully erosion is the proposed approach.

***2001-D* Respect the Rio**
0 Bud319Inc: 255,500 Total 319H: 255,500
OBJECTIVE(S): The project is a combination of environmental education, watershed restoration, public involvement and empowerment. The project will: 1.) Develop educational strategies that encourage public understanding of NPS pollution and how to reduce recreational impacts, 2.) Deter or exclude livestock from riparian areas, and develop permittee support and education on proper rangeland management, 3.) Improve riparian health and function with willow plantings, 4.) Allow the water to remain in the channel during high flows by replacing existing culverts with larger fish-friendly culverts, 5.) Promote riparian health and function with willow plantings, 6.) Reduce sedimentation in streams by upgrading road base, 7.) Establish for forage to hold soil in place in PJ thinned areas.

***2001-E* Community-based Watershed Protection in the Mora River Valley**
319h Base: 132,700 Bud319Inc: 0 Total 319H: 132,700
OBJECTIVE(S): The Western Mora county Unified Source Water Protection Council will employ A Watershed Coordinator to support the work of the Council and promote community-based approaches to watershed protection. This includes environmental education, monitoring, and demonstration projects

***2001-F* Spur Ranch Project-Stage II, wetlands/riparian restoration project on Centerfire Creek**
0 Bud319Inc: 132,000 Total 319H: 132,000

***2001-G* Riparian BMPs Implement. in the Cliff-Gila Valley: A Demo Project on the Gila River**
Base: 0 Bud319Inc: 88,313 Total 319H: 88,313
OBJECTIVE(S): Restoration of abandoned farm lands encompassing the Gila River Floodplain along about 5 miles of the Gila River. The projects will address runoff issues, by restoring native vegetation to an otherwise heavily impacted area.

***2001-H* Restoration of Cordova Creek to a High Quality Coldwater Fishery at Ski Rio**
319h Base: 0 Bud319Inc: 124,200 Total 319H: 124,200
OBJECTIVE(S): Ski Rio is a four-season recreational facility and alpine ski area that was established in 1982. Capital improvements include a day lodge, 3 hotels, 3 ski lifts, about 900 acres if ski-able terrain, and snowmaking capabilities. A developing subdivision is located next to the Ski Resort.

Slopes have been contoured and cleared for ski runs, and in some places, Cordova Creek has been modified from its original position within the valley to make room for ski area improvements. Vegetation has been

inadequately reestablished to prevent rills and gullies from forming on ski slopes. A snowmaking pond with 1,000,000-gallon capacity is located in the Creek next to the day lodge. Sediment accumulations are removed from the snowmaking pond and placed back along the banks of Cordova Creek. The snowmaking pond also acts as a barrier to fish passage. Up to a million gallons of water from the snowmaking pond can be reapplied to the slopes in the form of snow in one application. The normal channel capacity of Cordova Creek is not adequate to carry the additional runoff from snowmaking, resulting in accelerated stream bank and bed erosion. Riparian vegetation has been removed or has been lost through severe erosion of Cordova Creek banks. The remaining riparian vegetation is in jeopardy because of down cutting of the stream and loss of floodplain function. Logs and wood debris left over from slope clearing remains within Cordova Creek channel and in some places is exacerbating the erosion problem. Because of increased slope runoff, culverts have become undersized and are creating severe headcuts and gullies. Lack of erosion control measures is characteristic of dirt roads and construction sites at the subdivision.

Cordova Creek has been monitored as part of the Total Maximum Daily Load process for exceedances of New Mexico water quality standards and has been listed for turbidity, stream bottom deposits, and total phosphorus. No point source contributions are associated with these exceedances. Pollutant source summary lists removal of riparian vegetation, streambank modification/destabilization, resort development, land development and recreation as some of the contributing sources. The BMPs proposed for this project will address these nonpoint sources to significantly reduce pollutant loadings in the headwaters of Cordova Creek. The Creek will also be assessed for level of departure and restored to a functioning high quality cold-water fishery.

APPROACH TO SOLVING THE PROBLEM: This project involves upland, riparian, and in-channel restoration activities. The steps needed to restore Cordova Creek are outlined in the project tasks. An important element to restoring Cordova Creek is to quantify the hydrologic changes in the watershed caused by snowmaking, and the additional runoff that the Creek must accommodate. This will be accomplished by the hydrologic study and stage gage recording in combination with morphological characterization of Cordova Creek and reference reaches. Using the list of best management practices and slope treatments described in Objective 4, this project will reduce erosion and runoff on ski runs, trails and roads at Ski Rio. We will prepare a slope maintenance plan, a channel restoration design, and begin to restore the headwater reaches of Cordova Creek (Phase I). Through outreach activities, we hope to inform and educate stakeholders and the public about water quality issues, implement development covenants, and develop a Watershed Restoration Action Strategy for the Upper Cordova Creek Watershed.

This project corrects the sources of pollution listed in the TMDL Assessment. We will understand the effects of additional runoff from ski slopes, and snowmaking activities through the hydrologic study.

***2001-I* Mangas Water Quality Project**
319h Base: 0 Bud319Inc: 117,000 Total 319H: 117,000
OBJECTIVE(S): The project is six prescribed burns, as documented in each task associated with this project.

***2001-J* Upper Cow Creek/Bull Creek Watershed Restoration (Viveash Fire Area)**
319h Base: 0 Bud319Inc: 86,700 Total 319H: 86,700
OBJECTIVE(S):

***2001-K* Valle Grande Grass Bank Water Quality Improvement Project:**
Operation and Experimental Treatments within the Valle Grande Grass Bank Program
319h Base: 0 Bud319Inc: 192,000 Total 319H: 192,000
OBJECTIVE(S): The Valle Grande Grass Bank and participants involve grazing allotments on The Santa Fe and Carson National Forests. The Grass Bank program is actually a composite of projects within this regional landscape. The Valle Grande Allotment (the Grass Bank) is located on the east side of Rowe Mesa, Santa Fe National Forest. Selected participating allotments are allotments with need for restoration

and with merit for a combination of successful treatments On National Forest lands. Individual participating allotments may rotate into and out of the grass bank program through the lifetime of this work plan. The Grass Bank can accommodate 300+ head of cattle year-long. This capacity has allowed having several participating allotments each year. For example, in the past up to 6 allotments have participated per year.

***2001-L* Upper Rio Hondo Watershed Restoration Project-Phase I**
319h Base: 100,000 Bud319Inc: 0 Total 319H: 100,000
OBJECTIVE(S): The primary long run objective of this project is to improve water quality In the Rio Hondo Watershed so as to remove it from its listing as a UWA/Category I watershed and and to safeguard it under those conditions for future generations. A secondary and requisite objective to that end will be to Grow and amalgamate an already established inclusive watershed-wide coalition (the applicant) that has widespread public awareness, support, and participation and the authority and respect to develop a comprehensive long-term Watershed Restoration Action Strategy for the watershed. Current water quality will be improved by developing and implementing appropriate BMPs throughout the watershed to mitigate verifiable sources of current NPS pollution and appropriate BMPs will be developed and implemented to proactively prevent further degradation that appears inevitable without them.

The focus of this current Phase I proposal is take advantage of the Upper Hondo Watershed Coalition's established identity and resources to 1) draft a WRAS for the watershed, and 2) to complete several clearly defined projects in the watershed that demand immediate attention in the meantime.

2001-M Santa Fe River Restoration Project-- Phase II
319h Base: 0 Bud319Inc: 89,000 Total 319H: 89,000
OBJECTIVE(S): The Santa Fe River through State Trust Land is a severely impacted stretch of an ephemeral stream system. Our goal is to restore the site to properly functioning condition by removing lateral borders formed by streamside berms, re-creating historical meanders, promoting overbank flows leading to floodplain formation and re-establishing the native riparian flora community.

2001-N ???

***2001-P* Upper Puerco Watershed Education & Outreach**
319h Base: 12,500 Bud319Inc: 0 Total 319H: 12,500
OBJECTIVE(S): The McKinley SWCD will implement an education and outreach program in the Upper Puerco Watershed. The program will develop partnerships with land users and promote implementation of best management practices that prevent non-point source pollution, particularly those related to livestock management and erosion control. The project will improve water quality by starting at the source of the problems - poor management practices.

The District's efforts to target land users in the Upper Puerco Watershed Will be ongoing. A workgroup of the SWCD will be formed to address future water quality issues. This will be integrated into other SWCD, state, tribal, and federal efforts in the area.

***2001-Q* Quivira Coalition Conservation Ranching --Spreading the Word**
319h Base: 219,000 Bud319Inc: 0 Total 319H: 219,000

PROBLEMS AND CAUSES

Water quality degradation within the Cordova Creek subwatershed is the Result of a number of factors. NM 196 was originally constructed in the Cordova Creek channel. In order to build the road, extensive cuts and fills were constructed. These cuts and fills remain unvegetated and therefore highly susceptible to erosion during rain events. The New Mexico State Highway and Transportation Department has initiated a study to

evaluate possible new locations for the road. Cattle grazing and the development of runs at Ski Rio are two land uses in the area that also contribute to water quality degradation. Relocating NM 196 out of the creek channel and restoration of the creek channel will be a significant element in improving water quality in Cordova Creek. Revegetation of ski runs and implementation of sediment Control measures on the Ski Rio property will also reduce the amount of sediment entering the Creek.

Sediment in Comanche Creek comes from open and closed Forest Service roads and from eroding stream banks, as well as from grazing practices. Streambank stability and cover problems relate to both wildlife use (elk) and livestock grazing issues. The Valle Vidal Grazing Association has gone to a herding operation that has dramatically improved the area under an allotment management plan in place since 1984. But the herding plan may need to be "tweaked" to maximize riparian recovery. The heavy sediment loads into Comanche Creek are the most likely cause of the metals exceedences as well.

The closed roads may need additional drainage structures to redirect runoff onto wet meadow areas to maximize the growth of wetland vegetation and to reduce erosion. In addition, Comanche Creek's streambanks need to be stabilized to reduce erosion. Streambank restoration based on a careful analysis will be required to reduce water temperatures in Comanche Creek and to help optimize acceptable habitat for the Cutthroat Trout.

***2001-R* Pajarito Plateau**
319h Base: 50,000 Bud319Inc: 0 Total 319H: 50,000

PROBLEM/NEED STATEMENT
The Pajarito Plateau Watershed is located in north central New Mexico approximately 48 miles northwest of Santa Fe. The watershed covers the Pajarito Plateau, an area of volcanic rock on the eastern slope of the Jemez Mountains, and drains into the Rio Grande. Elevations range from above 10,000 feet at the Sierra de Los Valles in the Jemez Mountains to 5,400 feet at the Rio Grande. The Pajarito Plateau contributes numerous perennial and ephemeral tributaries to the Rio Grande. With such a large project area it is essential that we develop a Watershed Restoration Action Strategy (WRAS). The WRAS will help the Partnership to identify problem areas from a Non Point Source Pollution issues in our project area. The WRAS will be our guidebook for developing tasks and schedules for future work and outreach activities; there is an urgent need for an outreach/education program focused on the communities within the Pajarito Plateau watershed. We will design outreach and involvement efforts that will capitalize on the interest in watershed health that has been prompted by the Cerro Grande fire, and relate it to our WRAS and future projects. Part of the WRAS will be to develop demonstration projects that will show the types of restoration activities the Partnership will be using in the watershed. The demonstration projects will be located near trails in the Los Alamos area so they are easily accessible to the public. They will have interpretive displays to educate the public about our goals and objectives.

The demonstration areas will be constructed, monitored and interpreted by volunteers from the community. These activities will help to promote constructive involvement by community groups and individuals.

GENERAL PROJECT DESCRIPTION
This grant proposal stems from a broad-scale collaborative effort involving numerous organizations with an interest in the quality of the Pajarito Plateau Watershed.

The Pajarito Plateau Watershed Partnership will develop a Watershed Restoration Action Strategy to outline a plan for restoration and public outreach activities in the watershed. With such a large project area it is essential that we develop this document so we can focus our attention and funding on the areas that are contributing to water quality problems. This will be an action- specific document tiered to the Pajarito Plateau Watershed Partnership Watershed Management Plan, and designed to provide a coordinated plan for watershed protection

The Watershed Restoration Action Strategy will include the following parts:
1. A Watershed Assessment describing specific water quality problems.
2. A map detailing watersheds of concern and documentation of impairments to water quality from watersheds
3. Public outreach methods such as speaker's bureau, public forums, demonstration areas.
4. Volunteer monitoring of demonstration areas.
5. A schedule for implementation of needed restoration measures.
6. A list of funding needs and potential sources.

2001-S Dos Rios Ranch
319h Base: 12,855 Bud319Inc: 0 Total 319H: 12,855
OBJECTIVE(S): The Dos Rios Ranch Drainage Improvement Project utilizing used tire check dams, intends to reduce the non-point source pollution (NPS) of sediments from an intermittent tributary that impacts the Cimarron River with stream bottom deposits. The drainage is an incised intermittent stream that carries runoff from rangeland. The drainage lacks riparian vegetation and has destabilized stream banks that result in large volumes of sediments to the Cimarron River. Many of these impacts have their origin in the history of the watershed and continue to impact the water quality due to the lack of appropriate land management practices. The Cimarron River TMDL Implementation Plan states the primary focus in this watershed should be with sediment controls. The Dos Rios Ranch Drainage Improvement Project is a demonstration project to reduce sediments loads from an intermittent tributary to the Cimarron River and improve riparian and rangeland conditions along the drainage.

2001-T Children's Water Festival 2001
319h Base: 13,918 Bud319Inc: 0 Total 319H: 13,918
OBJECTIVE(S): The third Children's Water Festival for the Middle Río Grande (MRG) area will be held in November, 2001. Students in the 4th grade in schools in the MRG area will be invited to participate and up to 1000 students will be accommodated. The Water Festival 2001 will build on the successful Water Festivals held in 1999 and 2000. The experience gained from these events and evaluations from participants will make Festival 2001 even more effective.

Water Festival 2001 will present 20 activities that cover a wide range of core curriculum areas including language arts, math, science, social studies, visual arts, and health & wellness. At least 13 or 65% of these activities address causes and prevention of non-point source pollution. Presenters will present water related facts, concepts and values through fun, hands-on learning activities.

The program of activities for Water Festival 2001 will include the most successful ones from the previous Festivals. Since high school students have proved to be such effective teachers, we will recruit more student presenters.

The 4th grade students will create a mini-river, purify water from the Río Grande and build aquifers from edible ingredients. They will use a computer model to make projections of water use into the future, a groundwater model to "see" how water moves underground and relief maps to map their watersheds. They will make pizzas from garbage and analyze water samples; they will pretend to be algae, fish and raptors to understand how toxins can travel through the food chain. They will converse with the Water Wizard, Dorothy and the Xeric City

Scarecrow about saving water and test their water knowledge in lively games of Water Jeopardy and Dripial Pursuit. Arrangements will be made to provide munchies for the students.

Teachers and parents whose students attend the Festival will be invited to participate in a workshop before the festival to enable them to prepare the students before the Big Day and to help students to think about what they learned when they return to school. The workshop will help teachers integrate the lessons of the

Festival with the core curriculum and provide them with additional resources for water education. Each teacher will receive a Resource Kit filled with teaching materials and ideas.

The Festival preparation and activities will be documented in order to produce a 30 minute documentary that will use the scenes of the Festival, interviews with participants and organizers and a narrative to provide people in other areas with information useful for implementing children's water festivals. The video will reinforce that water education is important and demonstrate the effectiveness of the Festival as a powerful delivery method. Copies of the video will be distributed to sponsors, supporters, presenters and teachers. It is anticipated that it will be aired on KNME, the local Public Television channel, and the Teach and Learn Network, an education access channel.

The whole Water Festival experience and the learning activities will help students understand that water is an essential and limited resource and what each of us can do to protect and conserve our precious water. To test this assertion, a process will be implemented to evaluate the effectiveness of the whole Festival event and also to determine if the activities result in real learning. Evaluation forms will be developed for presenters, teachers, students, volunteers and parents who attend the Festival. The information from these forms will be compiled and analyzed and an evaluation report will be written and distributed. Through phone interviews, teachers will report on their use of the materials from the Resource Kit to continue the water education that was started at the Festival.

Specifically, the activities will help students answer one or more of these questions:
- Why is water so important to life?
- How much water do we use and how much is there?
- What is the water cycle and why is it important?
- How are trees, plants, animals, people, soils, and water interdependent?
- How do our actions affect water and all nature?

Water defines our survival in this place and the Festival activities will help students to understand that their future depends on the actions they take and decisions they make. It's especially important to educate the children because they will be the decision makers in 15 or 20 years.

2001-U Gila National Forest Continental Divide
319h Base: 0 Bud319Inc: 123,000 Total 319H: 123,000
OBJECTIVE(S): A total of 11.1 miles of Scenic trails will be reconstructed or restored. This length spans 7 ranger districts, including the wilderness areas.